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ABSTRACT

Cable TV, first used in rural areas, is finding its way into the urban scene. Many innovative projects are taking place across the country, demonstrating that Cable television's potential is not all dreams. Communication technology, including satellites, microwaves, computers, lazers, HVR, videotapes, closed circuit dedicated systems, and others, can and should supplement Cable technology. A broad selection of instructional aids is available to modern educators including: (1) the picture-phone concept, (2) the home video recorder/player, (3) the teleshop service, (4) cable facsimile newspapers, (5) computer assisted instruction, (6) an electronic mail system, (7) subscriber response service, (8) stock market and weather reports, (9) satellite communication, and (10) electronic public libraries. (MW)

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"MORE FUTURES THAN ONE"

A Paper Delivered At The

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Conference

"CABLE T.V., and ADULT EDUCATION"

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MORE FUTURES THAN ONE

Cable Television originated in the rural areas of the U.S., where T.V., reception was poor or non-existent. Between 1952 and 1962, the number of cable subscribers increased from 14,000 to 850,000.

Cable is expanding much more slowly in the big cities. Investment capital is proving difficult to obtain - the cost of laying cable in the city is much greater than in rural areas, prodded by many broadcasters, the Federal Communications Commission established rules to (prevent) cable from developing at the deteriment of established TV broadcast interest.

Although cable is slow in coming to the city, the city is the key to the promise of cable. Whereas in rural and outlying areas, where improved reception of over-the-air TV programs is sufficient in making cable a viable business venture, the city is different. The urbanite presently receives better reception and a greater variety. Surrounded by a multitude of diverse entertainment and cultural facilities not available elsewhere, the urbanite has to have more for his subscription dollar than the rural subscriber. The extra blue-sky services, of cable, are necessary to attract the urbanites who comprise two-thirds of the nations population.

Some of the glowing promises predictions of our communication technology all of which are compatiable with cable are:

(1) The picture-phone concept

(2) The home video recorder/ and player

A. This unit will record in color any TV show for later playback. With a built-in automatic timer, you can even set the HVR unit to record the program in your absense for viewing at your leisure.

B. The HVR unit will allow you to share color picture-and-sound of "Video records" - plays, movies, telecourses - which you can purchase similiar to the way you now purchase 45 records, albums, and audio tapes.

Other extra features of communication technology compatiable with cable are:

(3) The teleshop service - this service shows items on sale at the local stores. To shop for a new suit or dress you will simply tune to a specific channel, make your selection and place your order through a unit attached to your TV set. The price of the item can be added to your regular monthly bill you receive from the cable operator, or automatically deducted from your bank account.

(4) Cable facsimile newspapers - may replace conventional newspapers and magazines. Entire reference libraries can be microfilmed, and books can be requested instantly via computer-prompted selection, and duplicated in a matter of seconds.

(5) Children will go to school for group activities, but they may not have to attend school to learn. Sophisticated computer programs will teach the basics (ie. reading, writing, spelling, and arithmetic).

Lectures will stimulate students, books will enlighten them, and computer accessible information stores will make research a resource and a habit for any student.

(6) An electronic mail system-one can visualize an electronic mail system for first class mail in which the service will be developed in two successive stages: An intra-city service - later a nationwide service probably using earth satellite relays.... In the city, local mail can be posted in an electronic mailbox on the street, in an apartment building, or in a business office. An exact copy is then reproduced in the addressee's home or office within minutes. Each mailbox could be a sending station transmitting letters electronically, relaying a picture of each letter to a central office via coaxial cable. There the letter would be routed into outgoing circuits to the addressee's home recorder. This would be activated by a coded address on the letter and would produce a "hard" copy of the letter, folded and sealed to insure the privacy of both sender and recipient.

(7) Subscriber response Service: One day we may vote by pushing a button on a unit attached to an in-home communication terminal.

(8) Meter readers will no longer visit the home. Instead, utilities will be read by electronic screeners.

(9) Surveillance devices - Surveillance devices in homes and offices will be connected to central police and fire stations to guard against burglary

and fire losses around the clock. Before leaving home, tomorrow's homeowner will be able to flip a switch and have his yard and every room in his home monitored.

(10) Up-to-the minute stock market quotations and reading on weather conditions anywhere in the world will be available on T.V. channels dedicated solely for this purpose.

(11) Communication Satellites through a string of geostationary communication satellites encirculing the earth at 22,300 miles in space, we will be able to watch events as they occur anywhere in the world.

(12) Electronic Public libraries - a book can be requested from a central library over the telephone or over the cable network, and the selected work which would be on microfiche, microfilm, or videotape, would then be transmitted page by page over a cable channel and received on a facsimile recorder in the home. Several methods of transmission are feasible. For instance, if the reader wanted a hard or xerox type copy of an article or book, the library could transmit the entire work at the maximum speed of the user's facsimile recorder. In one demonstration of this method, the entire text of "Gone With the Wind" was transmitted over a television circuit in about 2 minutes.

Alternatively, the reader could request a "soft copy display", which shows a select page on the television screen and then erases it as the next page appears. This store-and erase technique would enable the

reader to order an article or book for immediate reading. When one page is finished, the reader signals for the next, which could be transmitted within a fraction of a second, obviously in its early stages a library service would undoubtedly be limited in the quality of recorded images subject to advances in technology, and the development of public demand.

We may have the opportunity to live in significantly less dense population centers in more rural area and yet have the tools available to communicate for business, entertainment, and socialogical purposes. Pollution and traffic problems could be eased because more people will work at or near their homes, and industry's massive paperwork will be alleviated.

For some professionals and business executives, the availability of home videophones and computers consoles will mean an increase in the amount of business transmited from the home. Some businesses have already provided some personnel with home terminals. These devices allow employees to transmit data such as sales orders or written reports to the company's computers. This frees personnel from the need to return to the office to prepare such reports. In the future it is expected that many executives will work at home, periodically receiving and transmitting assignments to central offices. Projections of air, inter-urban rail, truck, and automotive transportation growth indicate strong possibilities of saturation before 1980. One

communications system that could substitute for physical travel is the Videophone. The effectiveness of videophone travel can be extended by adding facilities for the transmission of documents, sketches, and detailed drawings.

Although many of the communication systems seem to be in the distant future at first glance, they are actually within reach. A variety of these devices are presently here, and are being tested by various industries.

1. A Global Communication satellite system is presently established, and a domestic satellite system should be establish by the mid 1970's. The Commission has authorized a number of construction permits for domestic satellites.

2. Cable television systems with the potential for more than 3 dozen channels are being constructed across the country.

3. Microwave systems are growing in use, both for "short haul, and long distance T.V., telephone and data service.

4. Videoplayers designed to feed filmed or taped programs from book size cartridge into the home T.V. set are on their way to the market.

5. The Bell system has begun limited picturephone service, and has outlined plans for its expansion.

6. A high speed facsimile service called Fax mail, using telephone wires and serving more than 200 cities across the U.S., and Canada, was inaugurated in 1970 by Facsimile Transmission Network, Inc.

7. The Associated Press completed a cross - country, high speed circuit for the instant display of both printed news and stock quotations on T.V., sets connected to cable systems. The service scheduled world news summaries twelve times an hour at speeds of 100 words per minute.

8. Dozens of the Country's Cable T.V., systems offer their subscribers channels which display continuous time and weather information.

9. Some cable systems presently provide channels that continuously display news bulletins and stock market prices.

10. British Rediffussion, a large English Cable T.V., company began in 1970 to test a "Dial-A-Program" service in the small Cape Cod Village of Dennis Port, Massachusetts. Subscribers are able to tune in T.V., signals from distant communities and also dial for specific entertainment programs which are transmitted from a film library, in a central exchange.
That system is also capable of such two-way services as burglar and fire alarm and meter readings.

11. Radcliffe students now use a computer at the University of California at Berkely - 3,000 miles away while Berkely students are asleep.

"As such networks expand and multiply", says Educational Facilities Laboratories President Harold Gores, "The small or middle-sized college will be able to use great national libraries, through regional subcenters connected by a transmission system that would

include mail, radio, telephone, teletype, and instant transmission by television with printout facilities at the receiving end."

12. The basic technology for a house - based computer instruction system already exists. According to a study issued by the Committee on Telecommunications of the National Academy of Engineering, two principal designs for instructional computer complexes have emerged. One is the centralized large computer concept. An example of this type is the University of Illinois's PLATO project, designed to serve 4,000 students terminals from the central point. The second design concept utilizes mini-computers capable of serving about 100 terminals. Either system could be adopted for home use by using cable networks with two-way features.

13. In Mobile, Alabama, the public library fulfills requests for information three (3) hours daily in response to viewers phone calls.

14. In Overland Park, Kansas, a high school course for invalid children is conducted by two-way cable. A cable system in a school district in St. Cloud, Minn., features in-service training for teachers.

15. In Redding, Penn., the Cable system provides an all-channel emergency alert, for use during community crises. Turning a special key at City Hall automatically interrupts the picture on all channels for two (2) seconds with a printed message telling the viewers to turn to a specific channel for emergency information.

These and other innovative projects taking place across the country demonstrates that "Cable's Blue Sky" potential is not all dreams and the key is understanding this communication technology including the manner in which satellites, microwaves, computers, largers, HVR, Video-tapes, closed circuit dedicated systems, and other can and should supplement Cable Technology.